**Commonwealth of Kentucky**
**Division for Air Quality**

# *PERMIT STATEMENT OF BASIS*

DRAFT
Conditional Major, Operating
Permit: F-08-011
Weyerhaeuser Company
Henderson, KY 42420
March 31, 2008
Luis D. Fuentes, Reviewer

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| SOURCE ID: | 21-101-000117 |
| AGENCY INTEREST: | 5506 |
| ACTIVITY: | APE20080001 |

## SOURCE DESCRIPTION:

The Henderson Mill produces recycled linerboard and corrugating medium from old corrugated container furnish via a twin-wire paper machine. The Mill consists of a stock preparation area, paper machine, roll winding, warehouse, effluent mixing/ surge pond, and miscellaneous storage tanks storing various process chemicals.

The Henderson Mill is located in an attainment area for all regulated pollutants, and its operations are not covered on the list of 28 defined in Prevention of Significant Deterioration of Air Quality (PSD) source categories. The potential emissions of all pollutants are well under 250 tpy (94.6 tpy of nitrogen oxides (NOx), 79.1 tpy of carbon monoxide (CO), and 50.4 tons per year (tpy) of volatile organic compounds (VOC)); as such, the Mill is an existing minor source under the PSD program.

The current permit contains emissions limitations and recordkeeping requirements that limit emissions of NOx to 98 tpy, VOC to 90 tpy, individual hazardous air pollutants (HAPs) to 9 tpy, and combined HAPs to 22.5 tpy. These limitations ensure that the Mill will remain a conditional major source for all pollutants.

## COMMENTS:

**Emission Points 01 through 06**

**01 (01) Disc Thickener**

**Description:**
De-watering device to aid in the removal of water from the pulp slurry.
Maximum Capacity: 33 machine dry tons of paper/hr
Construction Commenced: January 1995
Material Used: Biocide

**02 (02) Bottom-Ply Section**

**Description:**

Consists of bottom-ply head box (distribution point for pulp slurry) and bottom-ply web section. This equipment forms bottom-ply section of two-ply linerboard. The bottom-ply headbox in combination with the top-ply section, press section and dryer section make up the paper machine.

Maximum Capacity: 33 machine dry tons of paper/hr

Construction commenced: January 1995

Material Used: Retention Aid, Foamtrol, CC-B1

**03 (03) Top-Ply Section**

**Description:**

Consists of top-ply head box (distribution point for pulp slurry) and top-ply web section. This equipment forms top-ply section of two-ply linerboard.

Maximum Capacity: 33 machine dry tons of paper/hr

Construction commenced: January 1995

Material Used: Retention Aid, Foamtrol, CC-B1

**04 (04) Press Section**

**Description:**

Consists of two individual presses (series of rollers).

Maximum Capacity: 33 machine dry tons of paper/hr

Construction commenced: January 1995

Materials Used: Retention Aid, Foamtrol, CC-B1, CC-B

**05 (05) Dryer Section**

**Description:**

Consists of three individual dryer sections (series of rollers), which receive steam from the 220-mmbtu/hr boiler, (EP 07).

Maximum Capacity: 33 machine dry tons of paper/hr

Construction commenced: January 1995

Materials Used: Retention Aid, Foamtrol, CC-B1, CC-B

**06 (06) Effluent Mixing/ Surge Pond**

**Description:**

65,100 $ft^2$ aeration basin with six (6) aeration units.

Maximum Capacity: 6 million gallons

Construction commenced: January 1995

Emission Factors and Emissions Calculations:

Emissions are calculated from AP-42 emission factors, Engineering Estimates and Source tests. Proportional emissions of VOC and HAPs have been used for calculations in the pollutants of concern (POC) table and emission inventory system, even through actual emissions have been calculated from total of all six points, based on a mass balance, and there are different stacks.

General comment
The Division completed modeling tests using Tscreen to analyze the air toxics concentrations for permit F-01-001. The results showed that all the toxics emissions are going to be less than the respective Preliminary Remediation Goals.

**Emission Point 07**

Emission point description:

**07 (07) Steam Boiler.**
Description: Foster-Wheeler
Maximum Capacity: 220 mmBtu/hr
Construction commenced: October 1995

Applicable regulations:
**401 KAR 59:015**, New Indirect fired heat exchanger, applies to the particulate matter and sulfur dioxide emissions from the combustion gas.
**401 KAR 60:005**, New Source Performance Standards (40 CFR 60.40b to 60.49b, Subpart Db, Standards of performance for industrial-commercial-institutional steam generating units).

State-origin applicable regulation:
401 KAR 63:020, Potentially hazardous matter or toxic substances, applies to the toxic emissions.

Emission Factors and Emissions Calculations:
Emissions are calculated from AP-42 emission factors.

## PERIODIC MONITORING:

The facility chose to implement a Predictive Emissions Monitoring System (PEMS) to monitor NOx emissions. In 1999, the facility installed a PEMS and submitted testing and Relative Accuracy Test Audit (RATA) data to the Division. In 2007, the facility made a decision to replace the existing PEMS equations with a new set of equations derived from current testing results. Testing was completed on the Boiler on October 15, 2007 to develop a new PEMS to predict NOx and Oxygen emissions. RATA test was conducted on November 7-8, 2007 to gauge the accuracy of the new PEMS equations.

## EMISSION AND OPERATING CAPS DESCRIPTION:

The emissions of NOx from emission point 07 are limited to 96.36 tpy. The source wide emissions of NOx are limited to 98 tpy to stay below the major source threshold of 100 tpy. VOC emissions are limited to 90 tons per rolling 12 twelve-month period for the entire source. Combined HAPs are limited to 22.5 tpy, and any single HAP emissions shall be less than 9 tons per rolling 12 twelve-month period.

## OPERATIONAL FLEXIBILITY:

N/A

## CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.